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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/073,344	02/13/2002	Yuji Aburakawa	219585US2	4589

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EXAMINER	
WANG, QUAN ZHEN	

ART UNIT	PAPER NUMBER
2633	

DATE MAILED: 11/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/073,344	ABURAKAWA ET AL.	
	Examiner	Art Unit	
	Quan-Zhen Wang	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 August 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *16-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *16-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claim 16 is rejected under 35 U.S.C. 102(e) as being anticipated by Sowizral et al. (U.S. Patent US 6,678,251 B2).

Regarding claim 16, Sowizral teaches an optical communication network comprising at least two independent sub-networks (fig. 1, network formed by nodes 102, 113, 110, and 112; and network formed by node 104, 120 and 122), which are not connected directly to each other with optical fiber links, each of the sub-networks including a plurality of communication nodes, each of the communication nodes being provided with a function of transmitting and receiving optical signals (column 3, lines 14-55); a backbone network (fig. 1, network backbone) configured to connect the sub-networks; a first communication path, which is through the backbone network, for connecting a first communication node (fig. 1, node 102) and a second communication node (fig. 1, node 104), the first communication node being included in one of the sub-networks and the second communication node being included in another one of the

sub-networks; and a second communication path (fig. 1, communication path between 106 and 108), which is an optical space transmission path, for connecting the first communication node (fig. 1, node 102) and the second communication node (fig. 1, node 104).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sowizral et al. (U.S. Patent US 6,678,251 B2).

Regarding claims 17-18, Sowizral further teaches distribution switches (fig. 1, switch 110 and 120) between the wireless communication path (fig. 1, communication path between 101 and 108) and wired communication path communication (fig. 1, communication path through network backbone 114). The system of Sowizral differs from the claimed invention in that Sowizral does not specifically teach that at least one of the first communication node and the second communication node has a path switching part for switching selectively between the first communication path and the second communication path, and the switching the path according to an amount of communication traffic in the first communication path. However, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to

configure the distribution switches (fig. 1, switch 110 and 120) to switch selectively between the two communication paths in order to configure the system for the best route for the data packets to reach their ultimate destination.

3. Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sowizral et al. (U.S. Patent US 6,678,251 B2) in view of Presby et al. (U.S. Patent US 6,643,467 B1).

Regarding claim 19, the system of Sowizral differs from the claimed invention in that Sowizral does not specifically teach that at least one of the first communication node and the second communication node comprise a beam size controlling part for varying a degree of spread of the optical beam emitted on the optical space transmission path that is the second communication path according to a predetermined condition. However, it is well known in the art to employ a beam size controlling part for varying a degree of spread of the optical beam emitted to the other communication node of the two according to a predetermined condition in a node of free space optical communication system. For example, Presby teaches an optical transmitting apparatus comprises a beam size controlling part (fig. 4, controller 430 and 415) for varying a degree of spread (divergence) of the optical beam emitted to the optical receiving apparatus according to a predetermined condition (column 5, lines 19-42; and column 6, lines 26-43). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate an optical transmitting apparatus comprises a beam size controlling part for varying a degree of spread of the optical

beam emitted to the optical receiving apparatus according to a predetermined condition, such as the one taught by Presby, into the system of Sowizral in order to adjust the optical signal power at the receiver.

Regarding claim 20, Presby further teaches that the beam size controlling part varies the degree of spread of the optical beam according to conditions defined on the basis of a state of the space transmission path (column 6, lines 38-43).

Regarding claim 21, the modified system of Sowizral and Presby differs from the claimed invention in that Sowizral and Presby do not specifically teach that the beam size controlling part varies the degree of spread of the optical beam according to a condition that at the receiving communication node that is either of the first communication node or the second communication node the received level of the optical beam depending on the state of the space propagation path is constant. However, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to set the beam size controlling part varies the degree of spread of the optical beam according to a condition that at the receiving communication node the received level of the optical beam depending on the state of the space propagation path is constant in order to reduce requirement of wide dynamic range of the optical receiver at the receiving node.

Response to Arguments

4. Applicant's arguments with respect to claims 16-21 file on 8/31/2005 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Willebrand (U.S. Patent US 6,239,888 B1) discloses a terrestrial optical communication network of integrated fiber and free-space links which requires no electrical conversion between links. Bloom (U.S. Patent US 6,323,980 B1) discloses a hybrid picocell communication system. Titterton et al. (U.S. Patent US 4,995,101) teaches a secure two-way communications with submerged submarines utilizing a controller setting the beam divergence.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quan-Zhen Wang whose telephone number is (571) 272-3114. The examiner can normally be reached on 9:00 AM - 5:00 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. R. SEDIGHIAN
PRIMARY EXAMINER

qzw
10/31/2005